Theory-Practice Correspondence

**SFI – SDLC (software development life cycle)**

**Group members:**

Piyush Jaiswal

Priyamwad Pathak

Rajjat Chhajer

Somya Pareek

Y. Sai Krishna

1. SFI: Software Development Methodologies

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Key concepts** | **Explore concepts’ significance and relevance** | **Establish Relevance and Make Sense and Meaning** | | **Engage in critical thinking** | **Technology, Tools, Techniques** | **Plan Project management** | **Project Specification and project Sketch** |
| Find Real-life contexts | Find Interdiscipli-nary connection-s |
| A software development methodology is a splitting of software development work into distinct phases containing activities with the intent of better planning and management. It is often considered a subset of the SDLC. | We have different models of development inside it.  - Continuous process  - Shared understanding  - Programmer welfare  - Fine Scale feedback | Our education system is incremental model. | It is related to process by which we approach to our project. It has important role in determining the progress of project. | We’ve used “Incremental Model” because requirements were not complete at the initial stage & our project will have its newer versions after implementation as we’ll keep analyzing the functional requirements after every stage of development. | Incremental Model | From 15 Aug – 30 Aug 16 | We analyzed SDM on the basis of our idea of project. Everyone discussed their views on what should be our SDM. |

1. SFI: Requirements Analysis

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Key concepts** | **Explore concepts’ significance and relevance** | **Establish Relevance and Make Sense and Meaning** | | **Engage in critical thinking** | **Technology, Tools, Techniques** | **Plan Project management** | **Project Specification and project Sketch** |
| Find Real-life contexts | Find Interdisciplinary connections |
| It is the process of determining user expectations for a new or modified product. These features must be quantifiable, relevant and detailed. | -for timeline achievement  - client is from non-technical background  - for proper documentation | Necessity is the mother of invention. Every new product/service need derives from its requirements. | It is the base of the project. Requirements determine what is our project going to be. It’s features actors and actions. | Our Client is NIIT University. So our requirements came from its teachers & students. They defined the various requirements to improve student-faculty interaction.  Main features are-  Course handout tracking, meeting request etc. | ArgoUML, MS Word | From 01 Sept – 30 Sept 16 | Everyone in our group made their own SRS to analyze requirement by continuous interaction with faculty & taking the opinion of the students in the form of google doc. |

1. SFI: System Design

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Key concepts** | **Explore concepts’ significance and relevance** | **Establish Relevance and Make Sense and Meaning** | | **Engage in critical thinking** | **Technology, Tools, Techniques** | **Plan Project management** | **Project Specification and project Sketch** |
| Find Real-life contexts | Find Interdisciplinary connections |
| System design is the process of defining the architecture, components, modules, interfaces and data for a system to satisfy specified requirements.  System design could be seen as the application of systems theory to product development. | It fulfills all the practical aspects including flexibility, efficiency and security. | We should know what are the components required to develop any new product/service. Like students doing DLC project at school level. | System design is the backbone to coding and development of software. | We have used various matrices to determine to relation and dependencies between various requirements. We also determined design, development, interface & security issues. | ArgoUML, MS Word | From 01 Oct – 15 Oct 16 | For various actors-student, faculty, hod & various requirements; we found interdependencies & distributed our work for various phases of designing. |

1. SFI: Coding

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Key concepts** | **Explore concepts’ significance and relevance** | **Establish Relevance and Make Sense and Meaning** | | **Engage in critical thinking** | **Technology, Tools, Techniques** | **Plan Project management** | **Project Specification and project Sketch** |
| Find Real-life contexts | Find Interdisciplinary connections |
| It make possible for us to create software, apps and websites. For our software, we used HTML, PHP, CSS, JS, MySQL. | Coding determines the design(view) and working of the software. | Any task we do in our life has a certain procedure. In software project development, coding determines this procedure. | It is connected to our database, actors and actions. Based on it, we’ll test and manage our software. | We’ve used bootstrap, HTML, CSS and JS for frontend so that it can work for all devices and platform. For backend, we’ve used PHP as moodle integratican be done with this language only. | PHP, MySQL, PHP,  Visual Studio Code,  LAMP stack, MySQL Workbench, WAMP Server | From 15 Oct – 20 Nov 16 | We’ve divided our team for interface, database, front-end & back-end development. |

1. SFI: Testing

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Key concepts** | **Explore concepts’ significance and relevance** | **Establish Relevance and Make Sense and Meaning** | | **Engage in critical thinking** | **Technology, Tools, Techniques** | **Plan Project management** | **Project Specification and project Sketch** |
| Find Real-life contexts | Find Interdisciplinary connections |
| It referes to tests that verify the functionality of a specific section of code, usually at functional level. | Software testing can provide an objective, independent view of the software to allow the business to appreciate and understand the risks of software implementation. | A new product/service is like a new born baby until it does not face real-world things. Testing checks our software for performance, security and other issues to run in real-world. | Testing finds the flaws in coding which helping in determining performance & security issues which finally leads to better design and management of our software. | We’ve created all possible test cases manually to test our software. Whiteboxing & Blackboxing have been done with all related functions in our coding. | RIPS , PHPUnit, PHPMetrics, Chrome, Mozilla, Edge | From 20 Nov – 25 Nov 16 | Whole testing is carried out by an individual after integrating the different parts together. |

1. SFI: Software Project Management

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Key concepts** | **Explore concepts’ significance and relevance** | **Establish Relevance and Make Sense and Meaning** | | **Engage in critical thinking** | **Technology, Tools, Techniques** | **Plan Project management** | **Project Specification and project Sketch** |
| Find Real-life contexts | Find Interdisciplinary connections |
| Project management activites may include:  -Project planning  -Scope management  -Project estimation | It’s important for planning of project, deciding scope of software product, estimation of cost in various terms, scheduling of tasks and events, and resource management. |  | It decides the feasibility of project in terms of planning, cost & timeline. So it is related to all phases of the development. | We’re a team building this project & to execute our tasks efficiently, we’ve used SPM technique to analyze the progress and deadlines for various tasks of our project. | We did our project by setting deadlines for each and every stage. | Will be continued.. | TBD. |

-------------------------------------- x --------------------------------- x -------------------------------- x ----------------------------------------------